

IN THE CLAIMS

Cancel claim 1, and add new claims 30-35 as follows:

Q4 30. (New) a cell component recovering apparatus comprising:

a substrate being disposed in a separation cell, wherein the sample solution containing cells is supplied on a surface of the substrate, and a plurality of independent areas are formed on the surface of the substrate;

a first electrode disposed at each of the areas;

a second electrode opposed to the substrate, wherein each of the cells is captured one by one separately on each of the areas, by applying an alternating field between the first electrodes and the second electrode; and

temperature control means for heating the surface of the substrate at one area of the areas to a predetermined temperature to destroy the cell captured at the one area of the areas, to liberate cell components from the cell captured at the one area of the areas into the separation cell;

wherein, by introducing a washing solution into the separation cell, whereby the cells at the areas, except for the one area of the areas, remain on the areas, respectively, the washing solution is recovered to recover the cell components liberated from the cell; and

wherein, by changing a position of the one area of the areas, the washing solution is recovered to recover the cell components liberated from the cell for each of the areas.

31. (New) A cell component recovering apparatus according to claim 30, wherein the cell is a white blood cell.

32. (New) A cell component recovering apparatus comprising:

a substrate being disposed in a separation cell, wherein the sample solution containing cells is supplied on a surface of the substrate, and a plurality of independent areas are formed on the surface of the substrate;

a first electrode disposed at each of the areas;

a second electrode opposed to the substrate, wherein each of the cells is captured one by one separately on each of the areas, by applying an alternating field between the first electrodes and the second electrode;

means for identifying the positions of the areas where the cells each labeled with a fluorescence-labeled substance are present, wherein the fluorescence-labeled substance binds to the cells to selectively label cells by a binding reaction, the fluorescence-labeled substance emit fluorescence upon irradiation with an excitation light, and the positions of the areas are identified by detecting the fluorescence; and

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temperature control means for heating the surface of the substrate at one of the identified positions to a predetermined temperature to destroy the cell captured at the area of the one of the identified positions, to liberate cell components from the cell captured at the area of the one of the identified positions into the separation cell;

wherein, by introducing a washing solution into the separation cell, whereby the cells at the areas, except for the area at the one of the identified positions, remain on the areas, respectively, the washing solution is recovered to recover the cell components liberated from the cell; and

wherein, by changing a position of the identified positions, the washing solution is recovered to recover the cell components liberated from the cell for each of the identified positions.

33. (New) A cell component recovering apparatus according to claim 32, wherein the cell is a white blood cell.

34. (New) A cell component recovering apparatus comprising:

a substrate being disposed in a separation cell, wherein the sample solution containing cells is supplied on a surface of the substrate, and a plurality of independent areas are formed on the surface of the substrate;

a first electrode disposed at each of the areas;

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a second electrode opposed to the substrate, wherein each of the cells is captured one by one separately on each of the areas, by applying an alternating field between the first electrodes and the second electrode;

means for identifying the positions of the areas where the cells labeled with the fluorescence-labeled antigen substance are present, wherein the fluorescence-labeled antigen substance is introduced into the separation cell to label the cells which make an antibody response to the antigen substance, the fluorescence-labeled antigen substance emit fluorescence upon irradiation with an excitation light, and the positions of the areas are identified by detecting the fluorescence; and

temperature control means for heating the surface of the substrate at one of the identified positions to a predetermined temperature to destroy the cell captured at the area of the one of the identified positions, to liberate cell components from the cell captured at the area of the one of the identified positions into the separation cell;

wherein, by introducing a washing solution into the separation cell, whereby the cells at the areas, except for the area at the one of the identified positions, remain on the areas, respectively, the washing solution is recovered to recover the cell components liberated from the cell; and

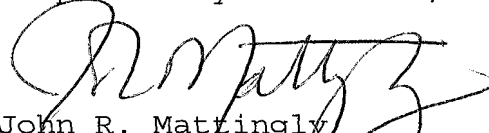
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wherein, by changing a position of the identified positions, the washing solution is recovered to recover the cell components liberated from the cell for each of the identified positions.

35. (New) A cell component recovering apparatus according to claim 34, wherein the cell is a white blood cell.

REMARKS

Claims 30-35 are now pending.

Respectfully submitted,

  
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